

2017

STATISTICS

[Honours]

PAPER — VIIA

Full Marks : 45

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[OLD SYLLABUS]

1. Answer any two questions : 8 × 2

- (a) How do you test whether a set of regression equations are identical or not when a several bivariate data set are given.**

- (b) How do you analyze an LSD when one observation is lost by some accident ?
- (c) Discuss the test procedure to test the interaction effect for two way classified data with $m(\geq 2)$ observations per cell.
- (d) What is "Confounding" ? Distinguish between total and partial confounding with examples.

2. Answer any *four* questions : 5 × 4

- (a) Give the layout of strip plot design for an RBD. How does it differ from split plot design ?
- (b) Compare the efficiency of a LSD with that of RBD taking columns of LSD as blocks.
- (c) Describe the ANCOVA technique for one way classified data.
- (d) How do you obtain factorial effect total for a 2^3 design using Yates method ?
- (e) Distinguish between 'Fixed', 'Random' and 'Mixed' models in the context of ANOVA.

- (f) What are the role of 'replication' and 'randomization' in controlling experimental error ?

3. Answer any *three* questions :

3 × 3

- (a) Discuss the merits and demerits of a completely randomized design.
- (b) For an 2^4 experiment the following principal block is given :

(1), abc, acd, bd

Identify the confounded effects.

- (c) What are the basic assumptions of ANOVA model for two-way classified data with one observation per cell ?
- (d) What are uniformity trials ?
- (e) Give two examples where one can use 'analysis of covariance'.